

## MECHANICAL DATA

Bulb . . . . .	T-6½
Base . . . . .	E9-1, Miniature Button 9-Pin
Outline . . . . .	6-2
Basing . . . . .	9EG
Cathode . . . . .	Coated Unipotential
Mounting Position . . . . .	Any

## ELECTRICAL DATA

### HEATER CHARACTERISTICS

	5BE8	6BE8
Heater Voltage (AC or DC) . . . . .	4.7	6.3 Volts
Heater Current . . . . .	600	450 Ma
Heater Warm-up Time <sup>1</sup> . . . . .	11	Seconds
Heater-Cathode Voltage (Design Center Values)		
Heater Negative with Respect to Cathode Total DC and Peak . . . . .	200	200 Volts Max.
Heater Positive with Respect to Cathode DC . . . . .	100	100 Volts Max.
Total DC and Peak . . . . .	200	200 Volts Max.

### DIRECT INTERELECTRODE CAPACITANCES (Approx.)

#### Triode

Grid to Plate (g to p) . . . . .	1.8 $\mu\text{f}$
Input: g to (k + pentode g <sub>3</sub> + I.S. + h) . . . . .	2.8 $\mu\text{f}$
Output: p to (k + pentode g <sub>3</sub> + I.S. + h) . . . . .	1.5 $\mu\text{f}$

#### Pentode

Grid to Plate (g <sub>1</sub> to p) . . . . .	0.040 $\mu\text{f}$ Max.
Input: g <sub>1</sub> to (k + g <sub>2</sub> + h) . . . . .	4.4 $\mu\text{f}$
Output: p to (k + g <sub>2</sub> + g <sub>3</sub> + triode k + I.S. + h) . . . . .	2.6 $\mu\text{f}$
Plate to (k + g <sub>2</sub> + h) . . . . .	0.30 $\mu\text{f}$

#### Coupling

Triode Grid to Pentode Plate . . . . .	0.010 $\mu\text{f}$
Pentode Grid No. 1 to Triode Plate . . . . .	0.009 $\mu\text{f}$
Triode Plate to Pentode Plate . . . . .	0.065 $\mu\text{f}$

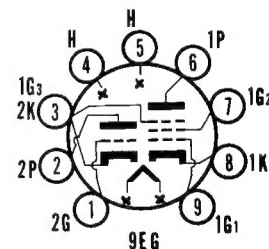
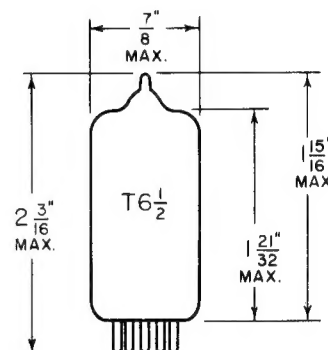
### RATINGS (Design Center Values)

	Triode	Pentode
Plate Voltage . . . . .	300	300 Volts Max.
Grid No. 2 Supply Voltage . . . . .		300 Volts Max.
Grid No. 2 Voltage . . . . .	See Rating Chart	
Plate Dissipation . . . . .	2.5	2.8 Watts Max.
Grid No. 2 Dissipation . . . . .		0.5 Watt Max.
Positive Grid No. 1 Voltage . . . . .	0	0 Volts Max.
Grid No. 1 Circuit Resistance <sup>2</sup>		
Fixed Bias . . . . .	0.5	0.25 Megohm Max.
Self Bias . . . . .	1.0	1.0 Megohm Max.

## QUICK REFERENCE DATA

The Sylvania Type 6BE8 is a miniature, medium mu triode and sharp cutoff pentode intended for use as a vhf oscillator mixer. The basing is unique in that the pentode No. 3 grid and internal shield are connected to the triode cathode.

The 5BE8 employs controlled heater warm-up time for service in series string television receivers. Except for heater current and voltage the 5BE8 is identical to the 6BE8.



SYLVANIA ELECTRIC  
PRODUCTS INC.

RADIO TUBE DIVISION  
EMPORIUM, PA.

Prepared and Released By The  
TECHNICAL PUBLICATIONS SECTION  
EMPORIUM, PENNSYLVANIA

OCTOBER 1955

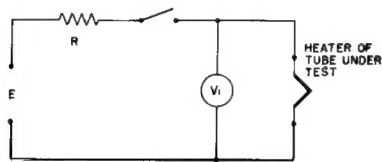
PAGE 1 OF 10

CHARACTERISTICS AND TYPICAL OPERATION

Class A <sub>1</sub> Amplifier <sup>3</sup>	Triode	Pentode
Plate Voltage . . . . .	150	250 Volts
Grid No. 2 Voltage . . . . .		110 Volts
Grid No. 1 Voltage . . . . .	0	0 Volts
Cathode Bias Resistor . . . . .	56	68 Ohms
Amplification Factor . . . . .	40	
Plate Resistance (approx.) . . . . .	.005	0.4 Megohm
Transconductance . . . . .	8500	5200 $\mu$ mhos
Plate Current . . . . .	18	10 Ma
Grid No. 2 Current . . . . .		3.5 Ma
Grid No. 1 Voltage (approx.) for I <sub>b</sub> = 10 $\mu$ a . . . . .	-12	-10 Volts

NOTES:

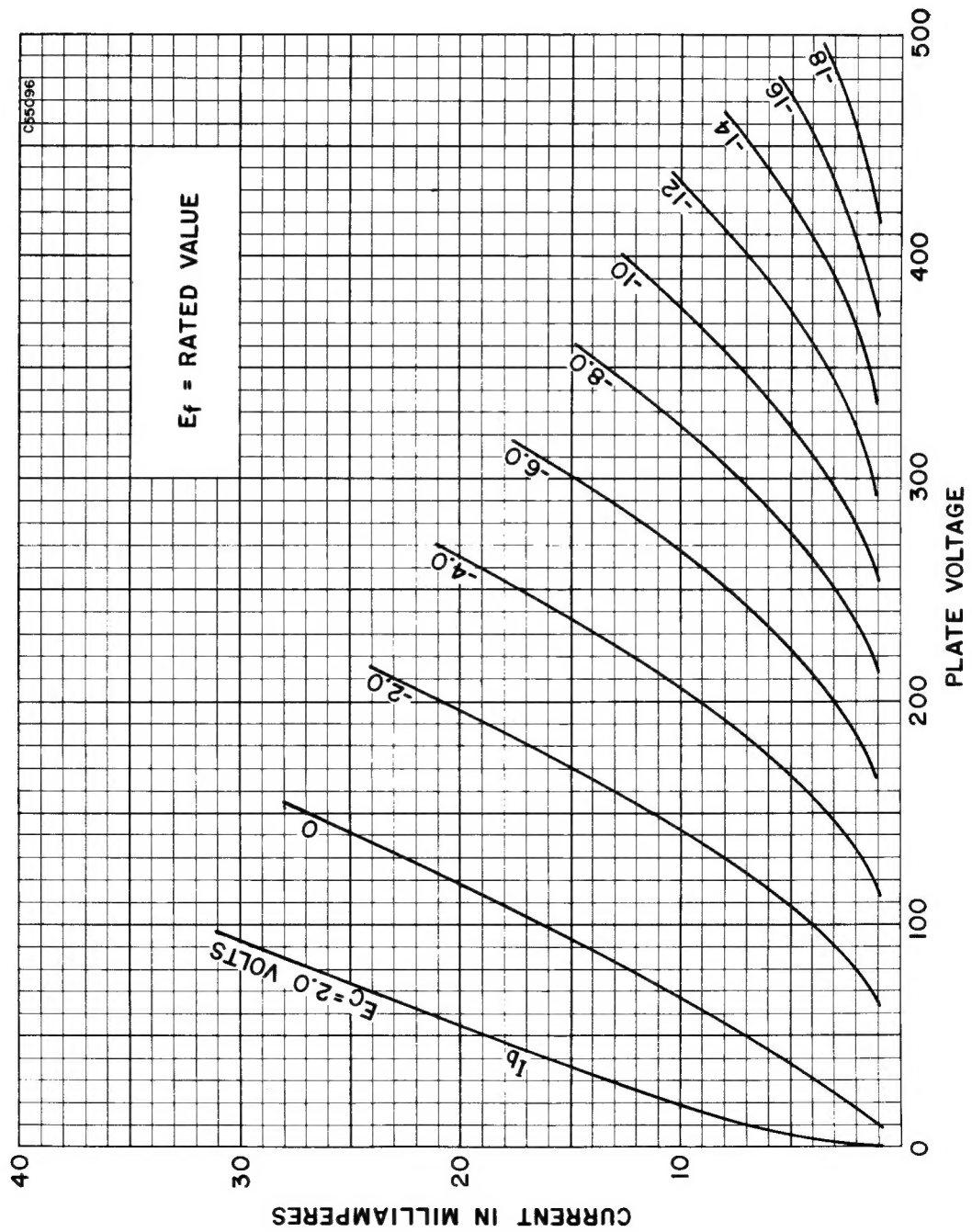
1. Heater Warm-up Time is defined as the time required in the circuit shown below for the voltage across the heater terminals to increase from zero to the heater test voltage (V1). The conditions used in conjunction with the test circuit depend upon the rated heater voltage and current of the tube under test. For this type: E = 18.8 Volts, R = 23.6 Ohms, V1 = 3.75 Volts.



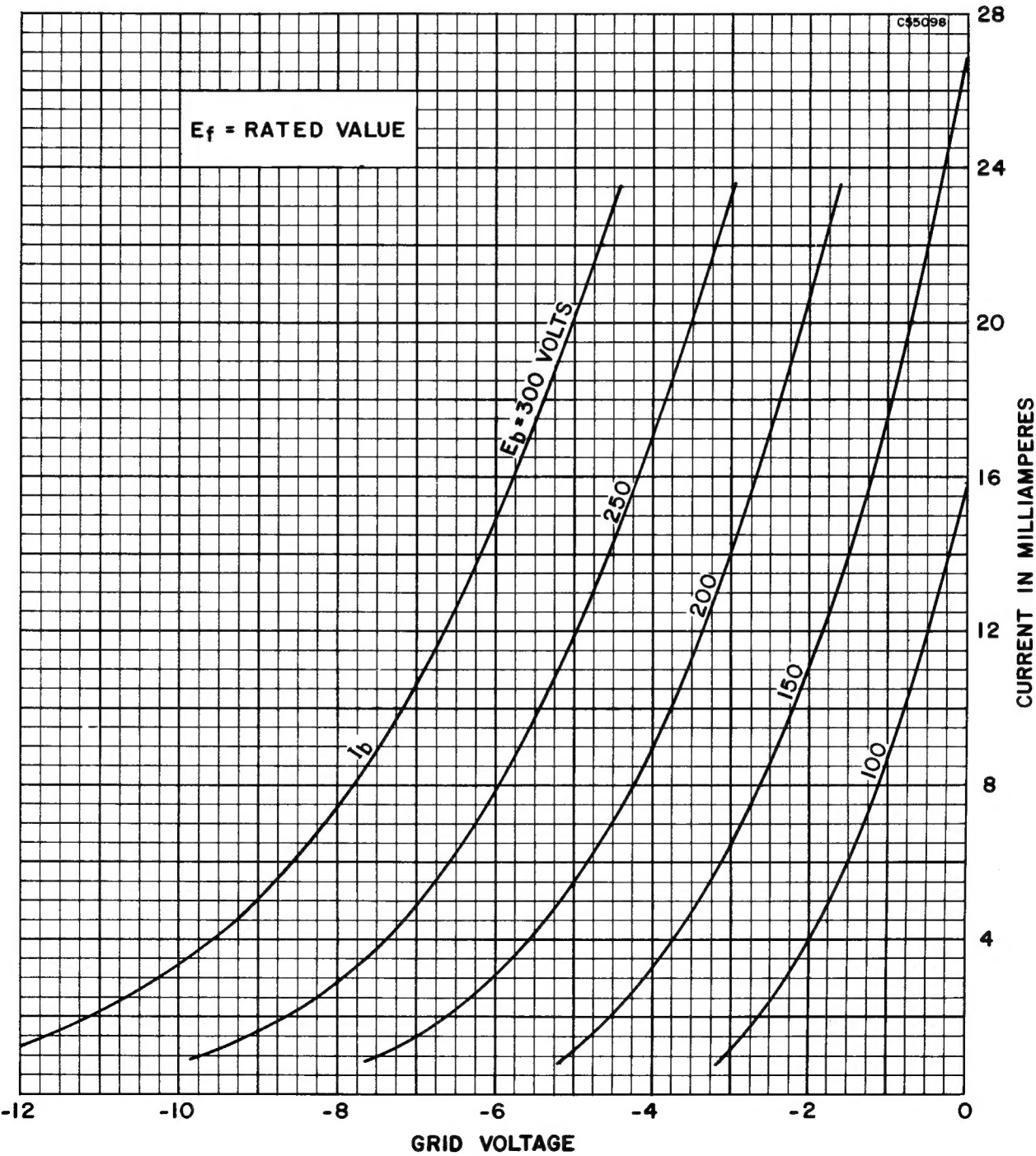
E — Applied Voltage, RMS or DC  
R — Total Series Resistance  
V1 — Heater Test Voltage, RMS or DC  
(80% Rated Heater Voltage)

2. If either unit is operating at maximum rated conditions, Grid No. 1 Circuit Resistance for both units shall not exceed the stated values.
3. When reading characteristics of the pentode section all triode elements shall be at ground potential. Thus, because of internal connections to Pin No. 3, the pentode suppressor will also be at ground.

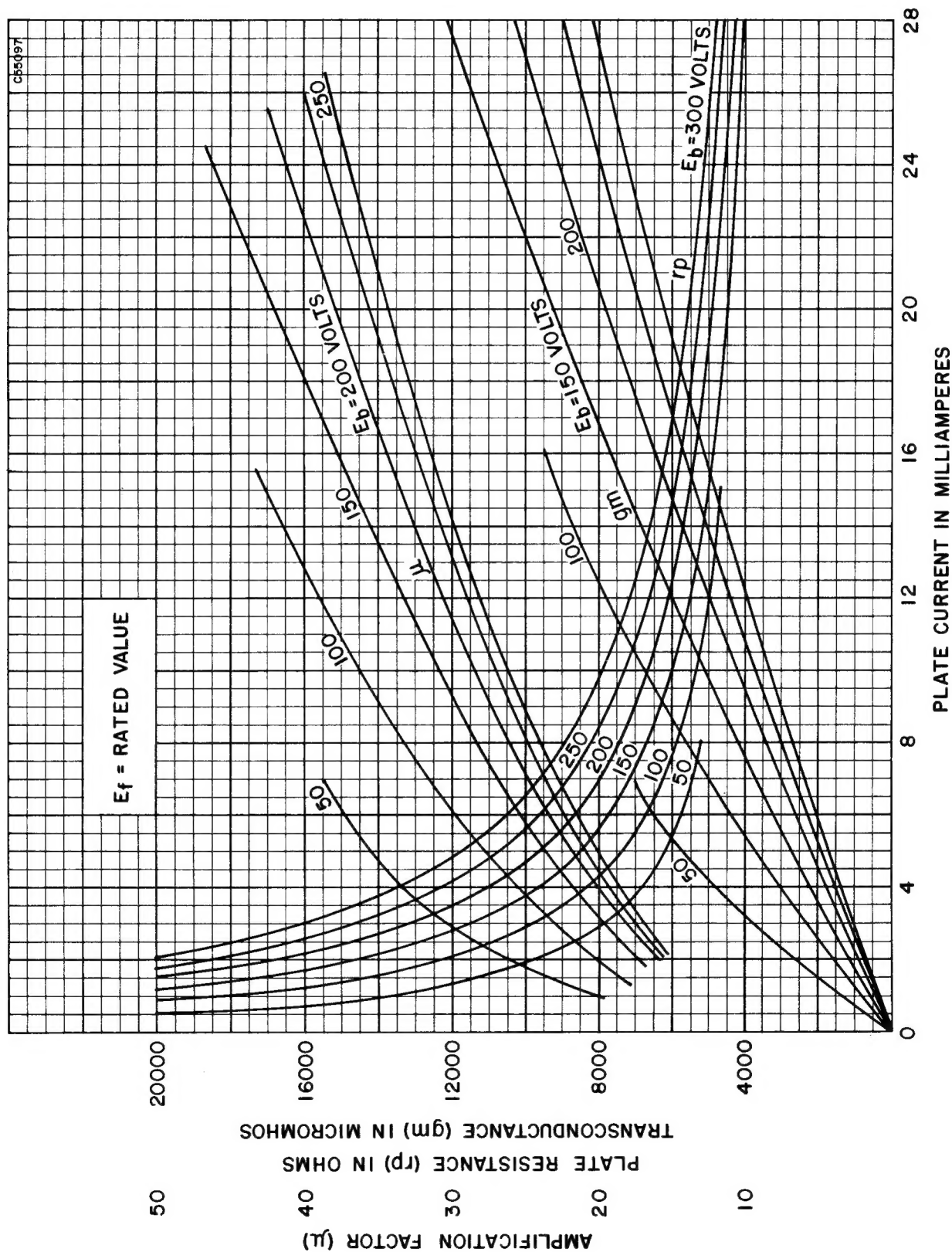
AVERAGE PLATE CHARACTERISTICS  
(TRIODE SECTION)

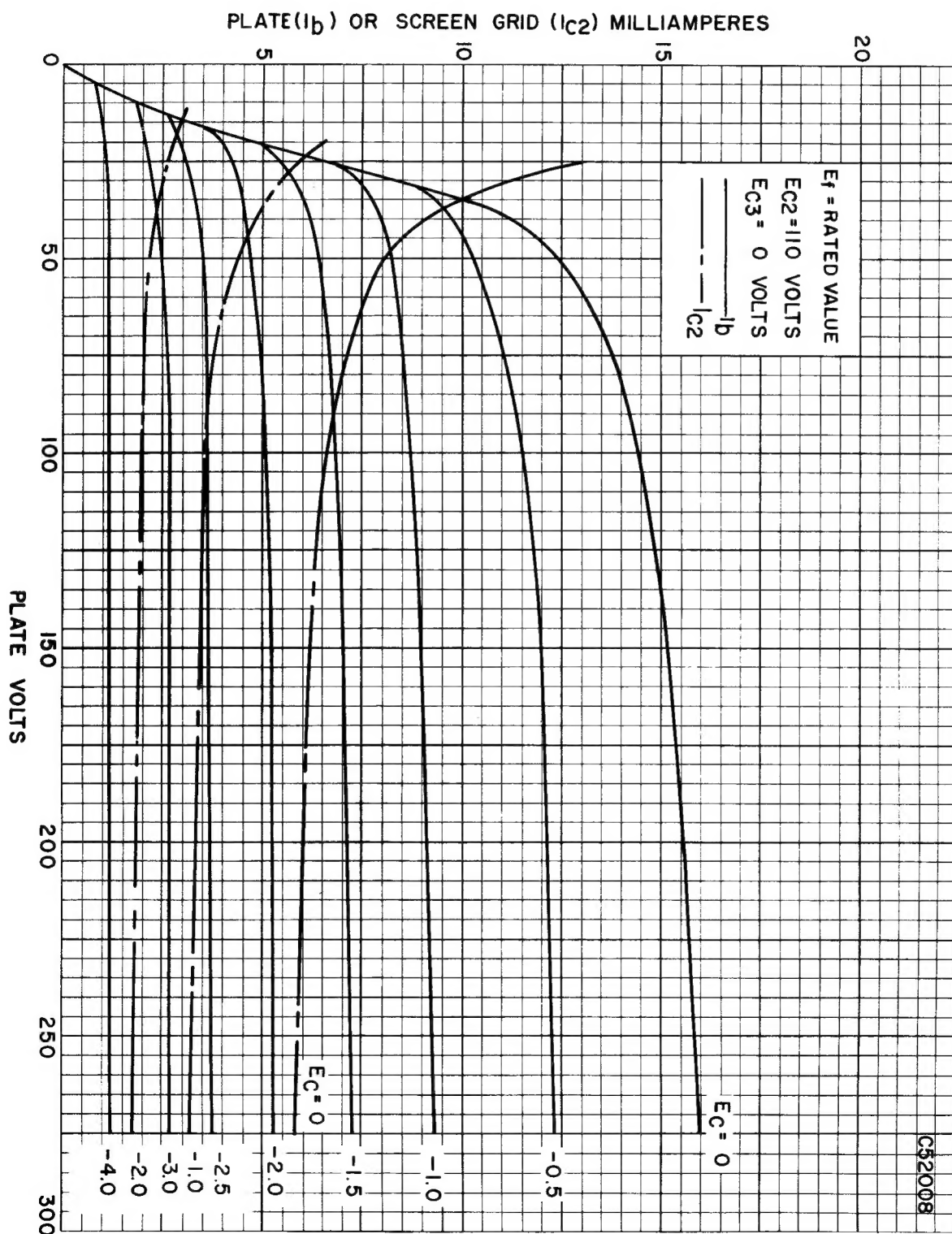


AVERAGE TRANSFER CHARACTERISTICS  
(TRIODE SECTION)

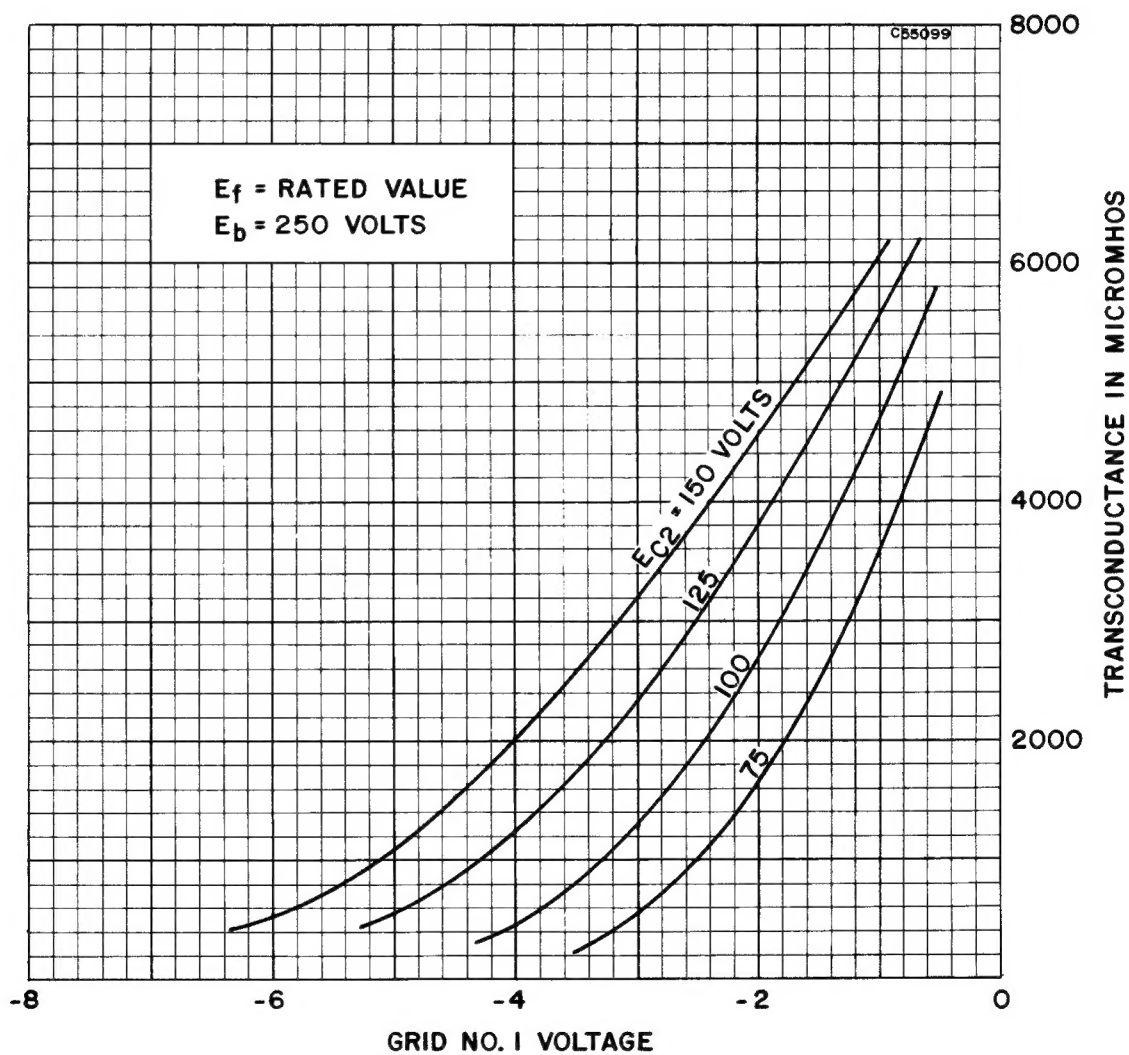


### AVERAGE CHARACTERISTICS (TRIODE SECTION)

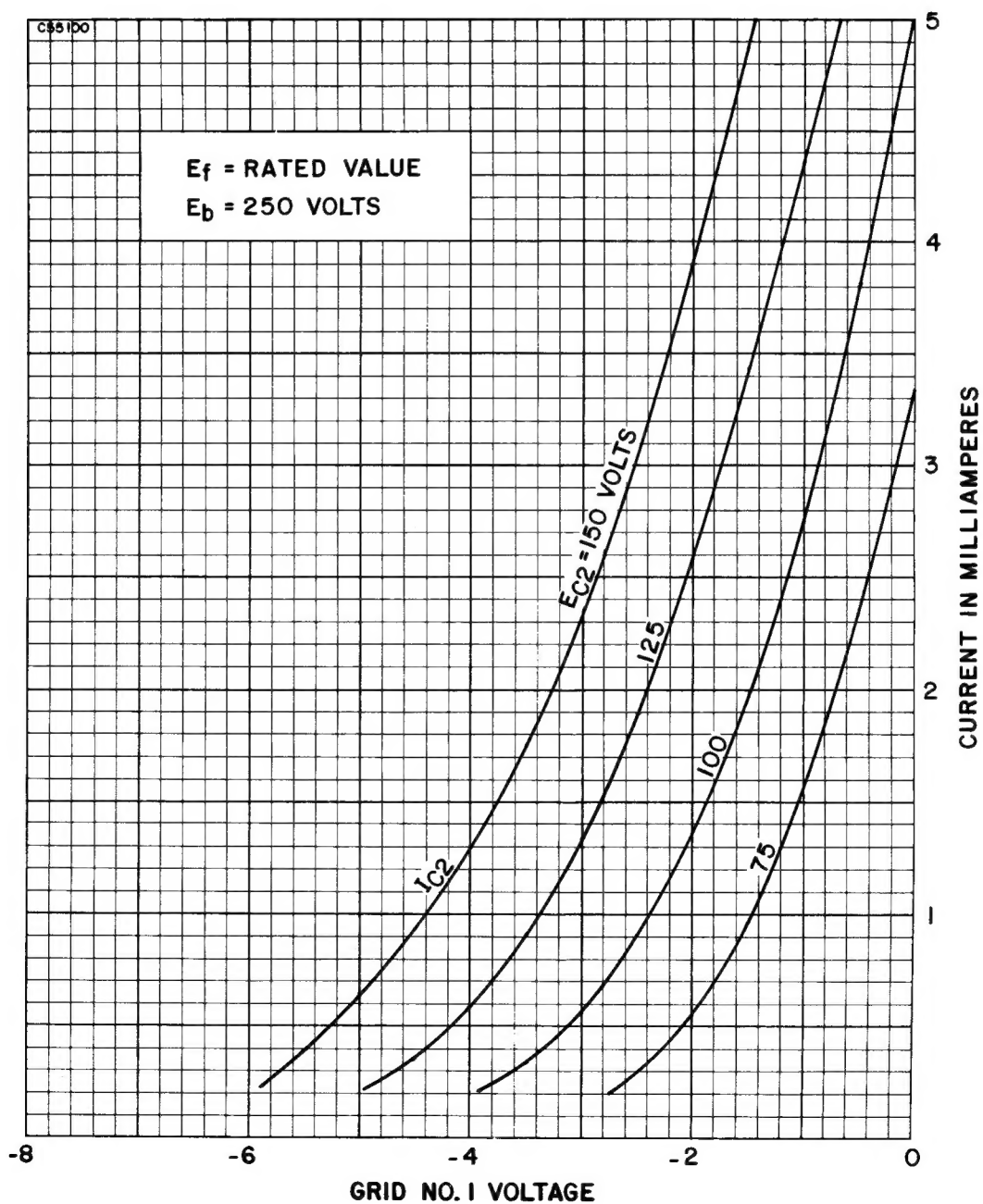




AVERAGE TRANSFER CHARACTERISTICS  
(PENTODE SECTION)

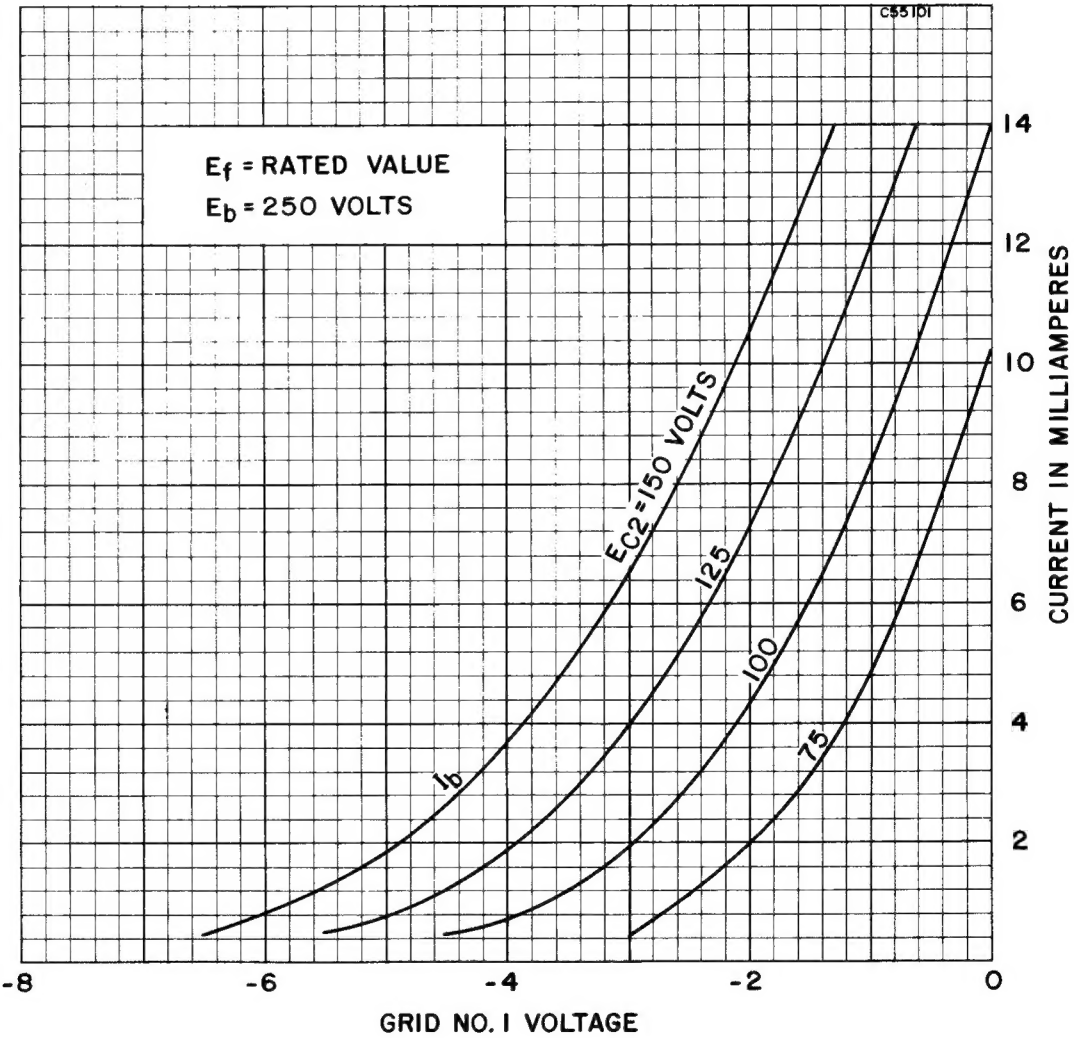


AVERAGE TRANSFER CHARACTERISTICS  
(PENTODE SECTION)





AVERAGE TRANSFER CHARACTERISTICS  
(PENTODE SECTION)



6BE8

5BE8

RATING CURVE

